CLAIMS

1/ Method of communication in respect of transmitting/receiving stations (1, 2) in a wireless communication network, in which method first multi-receiver frames (RTS, CTS) are exchanged between a station and a plurality of other stations and second mono-receiver frames (DATA, ACK) are exchanged between a transmitting station and a receiving station, the first frames being transmitted in an omnidirectional manner, characterized in that the second frames are transmitted in a directional manner and in that the transmission in a omnidirectional manner is effected in a more robust fashion than the transmission in a directional manner.

2/ Method according to claim 1, characterized in that the most robust transmission is effected at a lower throughput than the least robust transmission.

3/ Method according to any of claims 1 and 2, characterized in that the mono-receiver frames are modulated by a modulation with a first number of phases and in that the multi-receiver frames are modulated by a modulation with a second number of phases, and in that the first number of phases is higher than the second number of phases.

4/ Method according to claim 3, characterized in that the mono-receiver frames are modulated by a modulation with more than two phases and in that the multi-receiver frames are modulated by a two phases modulation.

5/ Method according to any of claims 1 to 4, characterized in that the mono-receiver frames are coded with a first forward error correction rate and the multi-receiver frames are coded with a second forward error correction, and in that the first rate is higher than the second rate.

6/ Method according to claim 5, characterized in that the mono-receiver frames and the multi-receiver frames are modulated by the same modulation.

7/ Method according to any of claims 1 to 6, characterized in that the transmission is in compliance with one of the standard belonging to the set comprising:

- Hiperlan type 2; and
- IEEE 802.11a

8/ Method according to any of claims 1 to 6, characterized in that the transmission is in compliance with IEEE 802.11g.

9/ Transmitting and/or receiving station (1, 2, 3, 4) for a wireless communication network, characterized in that said station comprises means to transmit and/or receive multi-receiver frames in an omnidirectional manner and means to transmit and/or receive mono-receiver frames in a directional manner, the transmission in a omnidirectional manner being effected in a more robust fashion than the transmission in a directional manner.

10/ Station according to claim 9, characterized in that the mono-receiver frames are modulated by a modulation with a first number of phases and in that the multi-receiver frames are modulated by a modulation with a second number of phases, and in that the first number of phases is higher than the second number of phases.

11/ Station according to claim 10, characterized in that the mono-receiver frames are modulated by a modulation with more than two phases and in that the multi-receiver frames are modulated by a two phases modulation.

12/ Station according to any of claims 9 to 11, characterized in that the mono-receiver frames are coded with a first forward error correction rate and in that the multi-receiver frames are coded with a second forward error correction, and in that the first rate is higher than the second rate.

13/ Station according to claim 12, characterized in that the mono-receiver frames and the multi-receiver frames are modulated by the same modulation.

14/ Station according to any of claims 9 to 13, characterized in that it comprises at least one omnidirectional antenna (11) and one or more directional antennas (12a, 12b, 12c, 12d).

15/ Station according to any of claims 9 to 14, characterized in that it comprises four directional antennas oriented at 90° with respect to one another.

16/ Station according to any of claims 9 to 15, characterized in that the transmission is in compliance with one of the standard belonging to the set comprising:

- Hiperlan type 2; and
- IEEE 802.11a

17/ Station according to any of claims 9 to 15, characterized in that the transmission is in compliance with IEEE 802.11g

18/ Wireless communication network characterized in that it comprises several transmitting and/or receiving stations (1, 2, 3, 4) according to one of claims 9 to 17.